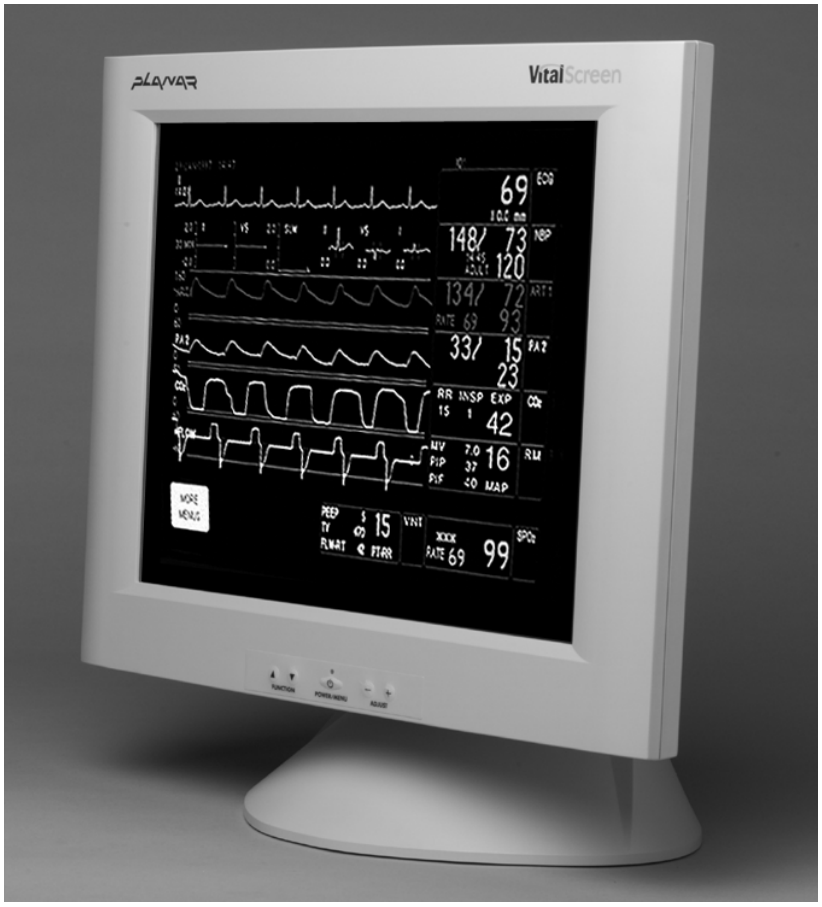
# VitalScreen 17.4" Display

## VS17.4SXAD / CM17.4SXAD




## OPERATIONS MANUAL

www.planar.com

**DOCUMENT HISTORY**

| DATE | DESCRIPTION |
|---|---|
| April 2002 | 020-0168-00A |
| January 2003 | 020-0168-00B |

# Regulatory Compliance

## VitalScreen CSR

This display has been tested and found to comply with IEC/EN 60601-1 and IEC/EN 60601-1-2 standards, and is certified to meet medical standard C22.2 No. 601.1-M1990 (C US Mark).

The medical display, in addition to meeting medical requirements, has been tested and found to comply with the limits for Federal Communications Commission (FCC) Class B computing devices in a typically configured system since many medical offices are located in residential areas. It is the system integrator's responsibility to test and ensure that the entire system complies with applicable electromagnetic compatibility (EMC) laws.

Planar Systems, Inc. has made great efforts to support the medical device industry, in particular, medical device manufacturers and medical device system integrators. We offer state-of-the-art color displays that are compliant with worldwide accepted medical device safety standards, and for the European market, CE-marked displays based on compliance with counsel directive 93/42/EEC—commonly referred to as the Medical Device Directive (MDD). The following summarizes our qualification of these displays as it relates to compliance with the MDD.

The European Medical Device Directive requires that the intended use of the device be defined. The intended use of these displays is "to display alphanumeric, graphic, and image data as inputted from any type of medical device." These displays do not provide a measurement function in any way, and it is the device and systems manufacturer's responsibility to verify its function in the integrated device or system.

The display was classified as required by the MDD according to Annex IX of the directive and the medical device (MEDDEV) guidance available at the time of classification. Because the display uses electrical energy and has no direct patient connections and—by itself—no medical utility, the display is classified according to Rule 12 as an MDD Class I device-component or accessory. The MDD states that manufacturers of Class I medical devices or accessories shall satisfy the requirements in regard to design and manufacturing controls, that is, the applicable assessment route to be used for CE-marking under the MDD, and it shall carry the CE mark according to Annex XII of the directive, with no notified body annotation.

The applicable safety standards for an MDD Class I display are IEC/EN 60601-1:1900 along with Amendments 1 and 2. To help the medical device designer evaluate the suitability of these displays, Planar has also conducted EMC testing to IEC 60601-1-2 as it can be applied. The display with its power supply alone does not represent a functional medical device. Hence, Planar configured a minimal operating system to exercise the display. The resulting data are made available to interested parties.

The data are informative data, not certification data. Certification data must be obtained by the device or system integrator according to Article 12 of the MDD titled "Particular procedure for systems and procedure packs." Paragraph 2 clearly outlines the device or system integrator's responsibility in this matter.

In summary, Planar Systems, Inc. is CE-marking these displays under the Medical Device Directive, which establishes compliance to the basic medical safety standards. However, EMC compliance can only be accomplished in the configured medical device or system and is the responsibility of the device or system manufacturer. Planar has the necessary documentation such as IEC 60601-1 notified body and other third-party test reports and certifications, a risk/hazard analysis, an essential requirements checklist, and the Planar International Electrotechnical Commission (IEC) declaration of conformity.

Planar Systems, Inc., located in Beaverton, Oregon, USA, is the manufacturer of these displays in the meaning of the directive. As required by the MDD in Article 14, Planar Systems, Inc., not residing in the European Economic Area (EEA), has a European representative, Planar Systems, Inc.—Espoo, Finland.

In the opinion of Planar Systems, Inc. registration required to put this device into commerce is the responsibility of the medical device/system manufacturer, and Planar supports this requirement by providing a European Commission (EC) declaration of conformity. If Planar supplies a display to an end user, rather than a device manufacturer, it is the end user's responsibility to ensure continued compliance with the MDD of the system in which the display is integrated.

For vigilance reporting as required under Article 10 of the MDD, Planar Systems, Inc. will provide any information requested by competent authority to support any reported incident investigation by such an authority.

### European Union Declaration of Conformity for Medical Applications

A Declaration of Conformity has been filed for this product. For additional copies of the Declaration of Conformity document, contact Planar Systems, Inc. and request document number 001-0014-05 "Declaration of Conformity."

## VitalScreen CR

### Manufacturer Declaration

This certifies that this product is in compliance with the EU Directive 89/336/EEC, using the EMC standards EN55022 (class B), EN50081-1 and EN50082-1. This product meets or exceeds EN60950, UL1950, and CSA 22.2 No. 950 safety requirements. This product has been tested and verified to meet CISPR 22 Class B requirements.

# FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To comply with the limits for an FCC Class B computing device, always use the shielded signal cord and shielded power cord supplied with this unit.

The Federal Communications Commission warns that changes or modifications of the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# Contents

# About This Manual

Congratulations on your purchase of the VitalScreen® display! This operations manual will help you set up, use, and maintain the VS17.4SXAD or CM17.4SXAD model properly. Retain this manual for future reference.

Read this section carefully to learn how to handle the display safely and clean it correctly. It explains the symbols used on the products and the conventions used in this manual.

Chapter 1 provides an overview of the VitalScreen display. It lists the contents of the display package and identifies the components of the display.

Chapter 2 explains how to install the display correctly and use optional components.

Chapter 3 explains the menus and function controls built into the display.

Appendix A contains technical information.

Appendix B focuses on troubleshooting.

Warranty description and ordering information are provided at the back of this manual.

## Conventions

The VitalScreen display documentation uses these conventions.

| This convention… | Indicates… |
|---|---|
|  | A warning that can prevent injury to you, such as electric shock. |
|  | A note of important information regarding a particular topic or procedure. |
|  | A caution that can prevent potential damage to hardware or software. |

# Product Information

## Safety Instructions

Store the display in its original shipping carton when it is not in operation for extended periods of time. Also use the original packing materials and carton when shipping the display.

- Do not place the display near a window. Exposing the display to rain, water, moisture, or constant direct sunlight can damage it.
- Do not place anything on top of the display-to-computer signal cord. Make sure the cord is placed where it will not be stepped on.
- Do not apply excessive pressure to the screen. Excessive pressure may cause permanent damage to the display.
- Do not operate the touch screen with sharp objects, such as a scalpel. Sharp objects can scratch or damage the touch screen. A damaged touch screen may pose a safety hazard.
- Refer all servicing to qualified personnel to maintain your warranty. The display and power supply units contain no user-serviceable parts.
- Do not cover or obstruct the venting holes on the back of the display.
- Store the display in an environment with a temperature range from –20 to 65 degrees Celsius (from –4 to 149 degrees Fahrenheit). Storing your display outside that temperature range could result in permanent damage.
- Replace any cord or cable that is frayed or damaged with another of the same type and rating as supplied by Planar. (See “Ordering Information” at the end of this manual for part numbers.) The safety and regulatory listings and certifications are based on the cable supplied by Planar.
- Do not expose the display to liquid or drop it. If the case has been damaged, the unit may pose a shock or fire hazard. Unplug the unit immediately and call customer service for assistance.
- Use only the power adapter that has been tested and approved for use with this display product. (See “Ordering Information” for part numbers.)

The power adapter must be plugged into a *grounded* power outlet.

- Use a cloth dampened with liquid cleaner to clean the power adapter. Wipe the outside of the enclosure and cable only. Do not immerse the adapter in liquid, or a safety hazard could arise during use.
- Do not use the power adapter near inflammable anesthetics.

## Cleaning Instructions

The VitalScreen display will continue to operate while being cleaned in a fashion normal for a hospital environment. This means cleaning the display with a damp, mild soapy cloth.

The VitalScreen withstands nonabrasive cloths and cleaning solutions used in hospital for like equipment. This cleaning typically includes warm water and mild detergent for all surfaces or 70 percent isopropyl alcohol for the touchscreen surface.

### Possible cleaning solutions

- 70 percent isopropyl alcohol
- 1.6 percent aqueous ammonia
- Cidex® (2.4 percent glutaraldehyde solution)
- Sodium hypochlorite (bleach) 10 percent
- “Green soap” United States Pharmacopoeia (USP)
- 0.5 percent Chlorhexidine in 70 percent isopropyl alcohol
- Ovation®
- Formula 409®
- Fantastic®
- WexCide®

### To clean the screen

Stand away from the display and spray the cleaning solution onto a clean nonabrasive cloth. Without applying excessive pressure, clean the screen with the slightly dampened cloth. Dry the screen with a clean nonabrasive cloth to remove any residue.

Do not spray liquid cleaners directly onto the screen.

## Disposal Information

The VitalScreen display contains cold cathode fluorescent lamps, which contain a maximum of 20 milligrams of mercury (5 milligrams per lamp). Follow local ordinances or regulations for its disposal.

## Symbol Explanations

This table explains the symbols appearing on the display or power supply adapter.

| This symbol… | Indicates… |
|---|---|
|  | Proof of conformity to applicable European Economic Community Council directives and two harmonized standards published in the official journal of the European Communities. |
|  | The product has been tested to specific requirements of medical or ITE device standards. If this mark appears with the indicators “C” and “US,” the product is certified for the Canadian and U.S. markets, meeting the applicable Canadian and U.S. standards. |
|  | The product has been tested to comply with FCC Class B standards. |
|  | More information available in accompanying documents. |
|  | Protective earth ground. |
|  | The product has been tested to comply with Underwriters’ Laboratories standards. |
|  | Indoor use only. |

CHAPTER 1

# The VitalScreen 17.4" Display

The architecture of the VitalScreen® CSR and VitalScreen CR displays incorporate an active matrix liquid-crystal display (AMLCD) panel that produces a bright, high-contrast image with low radiation emission. This technology greatly reduces the radiation-related health concerns associated with cathode-ray tube (CRT) monitors.

Each VitalScreen is a high-resolution color display designed to be versatile and easy to use. The display accepts either analog or digital video (DVI) input and displays most video standards from 640 x 480 (VGA standard) to 1280 x 1024 (SXGA standard). The controls located on the front panel allow you to easily adjust the display parameters using onscreen display (OSD) menus.

The digital video input is a single-link, transition minimized differential signaling (TMDS) digital visual interface (DVI), and is in compliance with the Digital Display Working Group (DDWG) DVI standard. This interface produces the sharpest display image possible with little need for adjustment. The setup is Plug and Play.

Each display has a built-in mounting platform that conforms to the Video Electronics Standards Association (VESA) mounting standard.[1] This configuration allows the display to be mounted in a variety of ways, such as on a wall bracket or articulated swing arm. An alternate configuration with a desk stand is also available for easy use on flat work surfaces.

Both displays have features making them ideal for hospital applications. The housing is an acrylic cover that protects the display from bumps, falls, collisions, and even everyday cleaning. In addition, Planar offers configuration management to ensure that you receive a consistent and predictable product.

The Planar 17.4" display series, for the first time, consists of these two distinct versions: VitalScreen CSR and VitalScreen CR. Both displays have been designed for hospital use, but they have several differences.

[1] The VESA Flat Panel Monitor Physical Mounting Interface (FPMPMI) Standard defines physical mounting interfaces for flat-panel displays, corresponding standards (75 and 100 millimeters) for flat-panel display mounting devices, and associated cable, cable connectors, and power supply location guidelines. For more information, refer to www.vesa.org.

## VitalScreen CSR

This display has been designed, tested, and certified for use *within* the patient vicinity. It has lower electric discharge, thus reducing the likelihood of electric shock. The display is certified to UL-2601, IEC 60601-1, and other representatives of the most stringent electric discharge certifications available. In addition, the interface buttons on the front panel are sealed by a plastic membrane, allowing simpler and safer cleaning. The display also meets the liquid/particle ingress certifications, IPX-1.

## VitalScreen CR

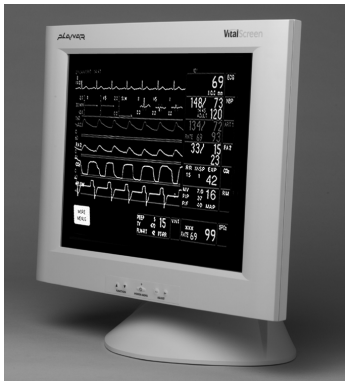
This display has been designed for hospital use *outside* the patient vicinity. It is not certified UL-2601 or IEC 60601-1. In addition, the interface buttons are not sealed on the front panel, and the display does not meet IPX-1 standards.

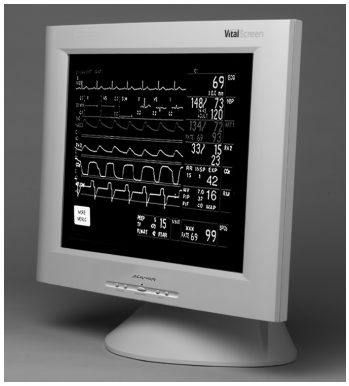
The VitalScreen CR display has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC rules.

The interface buttons on the VitalScreen CR display are not sealed and can be harmed if exposed to liquids. Use caution when cleaning near the front panel.

## Distinguishing the Displays

Many of the features and benefits that differentiate the VitalScreen CSR and VitalScreen CR displays are not visually apparent. The simplest way to identify your Planar display is to check the interface buttons on the front panel.





Note these differences for the interface buttons:

- Interface buttons on the front panel of the VitalScreen CSR display (left) are sealed by a plastic membrane.
- Interface buttons on the front panel of the VitalScreen CR display (right) are not sealed.

The display on the cover of this manual is a VitalScreen CSR. A plastic membrane seals the interface buttons.

## Selecting a Workspace

Before unpacking the display, prepare a suitable workspace. You need a stable and level surface near a grounded wall outlet in an area that is relatively free of glare from sunlight or other sources of bright light. The display is cooled by natural convection. For best performance, do not block the cooling vents.

## Unpacking the Display

While unpacking the display, inspect it and other package contents for shipping damage that could cause a fire or shock hazard. Immediately report any shipping damage to the carrier or transport company, and contact customer service for assistance. Keep all packing material in case you need to ship, store, or return the display.

After you unpack the display, make sure you have these items:

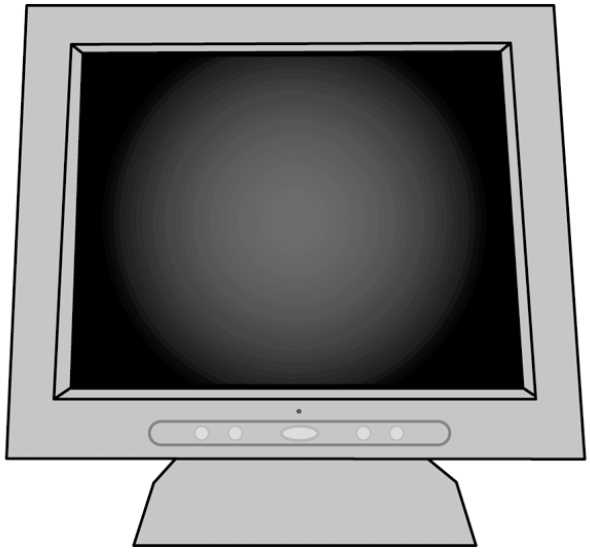
- LCD screen
- AC power supply with 1.5-meter (5-foot) cable
- Power cord for the display, which connects from the AC main supply to the AC adapter
- 3-meter (9-foot) S-Video/Composite Video cable (if you purchased the VitalScreen CSR with S-Video and Composite Video support)
- 3-meter (9-foot) audio cable (if you purchased the VitalScreen CSR with S-Video and Composite Video support)
- 75 and 100 millimeter VESA plates (if you purchased the VitalScreen CSR without a desk stand)
- 2-meter (6-foot) RS-232 serial cable (if you purchased the VitalScreen CSR with touchscreen interface)
- 2-meter (6-foot) analog video cable (VGA-VGA) with audio
- 2-meter (6-foot) digital video cable (DVI-DVI) with audio
- Documentation package including CD, operations manual in English, and EU Declaration of Conformity

If you have questions about what comes with your display, compare the part number for the display with the ordering information on page 25.

## Identifying the Components

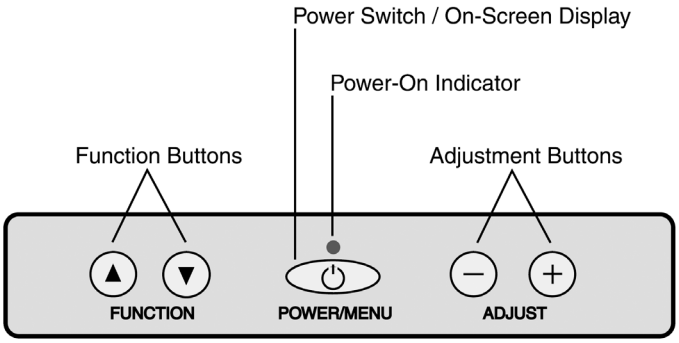
The VitalScreen CSR and VitalScreen CR displays provide easy access to all controls and peripheral ports. The following illustrations of the screen and the front and back panels identify the display controls and ports.

### 17.4" LCD screen



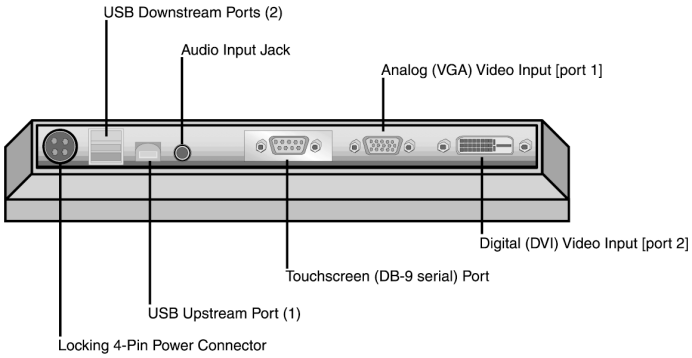
| | |
|---|---|
| LCD screen | A 17.4-inch diagonal AMLCD. The screen supports most display standards from 640 x 480 VGA to 1280 x 1024 SXGA. |

## Front panel




| | |
|---|---|
| Power switch / Onscreen display | Dual function button to control display power and access the OSD menu. Press this button for 2 seconds to turn the display ON or OFF. When the display is ON, press this button once to access the OSD menu. |
| ▲ ▼ Function buttons | UP and DOWN arrows to navigate the OSD menus. When the OSD menu displays, press these buttons to select a control function. |
| ⊖ ⊕ Adjustment buttons | Controls to adjust the selected setting. The MINUS control decreases the selected setting. The PLUS control increases the selected setting. Press either button to select a menu. |
| Power ON indicator | Light-emitting diode (LED) indicator that illuminates when the display is ON and receiving a proper video signal. The LED blinks when the display is in power-saving mode. |

## Back panel




| | |
|---|---|
| Locking 4-pin power connector | Connect the low-voltage cable from the power adapter to this port. |
| USB downstream ports (2) | Connect peripherals (e.g., keyboard, mouse) to these ports, if desired.[2] |
| USB upstream port (1) | Connect the USB cable from the computer to this port, if desired.[3] |
| Audio input jack | Connect the system audio lineout to this port to listen to the system audio on the display stereo speakers.[4] |
| Touchscreen (DB-9 serial) port | Connect the system touchscreen cable to this port on a resistive touchscreen display. |
| Analog (VGA) video input [port 1] | Connect the system VGA cable from the computer VGA output to this port for analog mode. |
| Digital (DVI) video input [port 2] | Connect the system DVI cable from the computer DVI output to this port for digital mode. |

[2] Connect USB upstream port to computer to use peripherals.

[3] For a VitalScreen supporting S-Video and Composite Video, the S-Video/Composite Video connector replaces the USB ports.

[4] Do not use audio from the display speakers as the exclusive audio source in medical applications, especially not as an alarm indicator.

CHAPTER

# 2 Installing the Display

To install the VitalScreen CSR or VitalScreen CR display, first connect the power supply unit. Next, connect the video cable. Then choose whether to connect optional stereo speakers and touch screen.

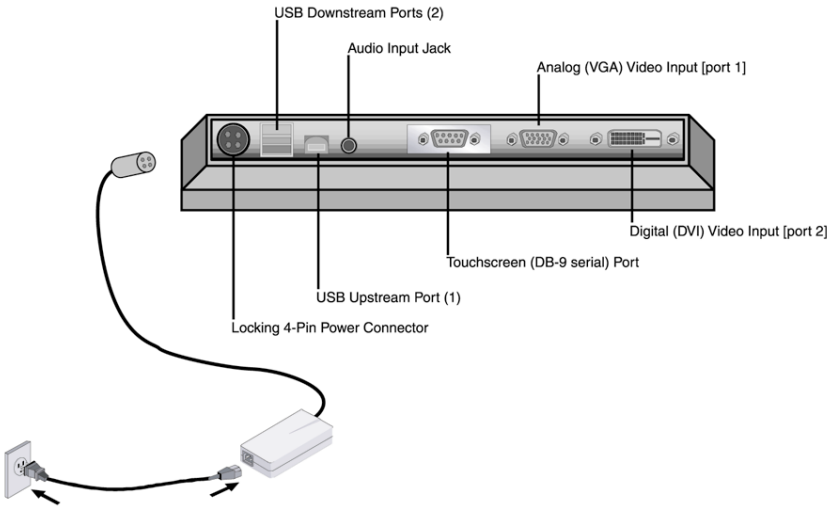
## Safety Precautions

Follow these safety precautions when connecting the display.

- Plug the power adapter into a grounded power outlet.
- Use a surge protector between the AC adapter and the electrical wall outlet to prevent sudden current variations from reaching the display.

## Connecting the AC Power to the Display

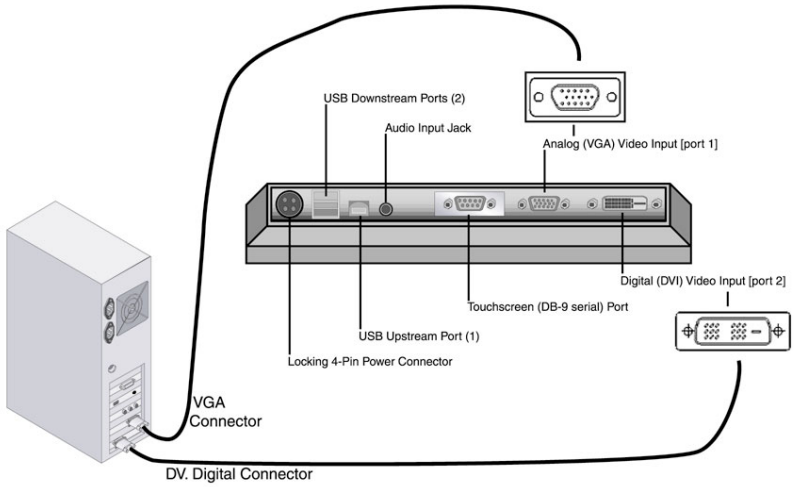
1. Plug the receptacle end of the AC power cord into the AC power adapter.




2. Plug the power connector of the adapter into the power port on the display. (Locate the locking 4-pin power connector on the back panel next to the USB downstream port.)
3. Insert the power cord into a grounded wall outlet.

## Connecting the Display to the System

1. Turn off power to the computer, camera, or other output source, and to the display.
2. Connect the appropriate video cable from the display to the video port on the output source.
3. Make sure the video cable connector is securely connected to the video port on the output device.




4. Turn on the display first, then turn on the output device.
5. Set the output device to a supported resolution, if applicable. (See “Supported CVBS and S-Video Modes” on page 16.)
6. If VGA analog is used, select the Auto-Adjust menu on the onscreen display, if you are using VGA analog. (See “Onscreen Display Main Menu” on page 11.) Press the PLUS or MINUS (⊕ / ⊖) control to activate it.

## Connecting a Video Device

Use the following instructions if you are hooking up a camera, VCR, or other S-Video or Composite Video device, and not using the VGA or DVI input simultaneously. These instructions apply to S-Video and Composite Video input-equipped displays only.

1. Press the Power/Menu button until the Power ON indicator blinks.

   After a moment, a No Signal Coming message appears.
2. Wait for the No Signal Coming message to disappear, approximately 3 to 5 seconds.
3. Press the Power/Menu button to display the VGA → VIDEO menu.
4. Press the PLUS or MINUS (⊕ / ⊖) control to enter video mode.
5. Press the UP (⊙) arrow to change video modes if you are using an alternate video source.
6. Press the PLUS or MINUS (⊕ / ⊖) control to select the desired video mode.

## Connecting the Optional Touch Screen

If your VitalScreen CSR or VitalScreen CR display has the optional touch screen, connect the display 9-pin D-sub serial port to the computer 9-pin RS-232 serial port using the cable supplied with the touchscreen package. Next, connect the RS-232 cable to the 9-pin serial port on the back panel of the display.

Do not operate the touch screen with sharp objects, such as a scalpel. Sharp objects can scratch or damage the touch screen. A damaged touch screen may pose a safety hazard.

## Mounting the Display

When mounting your display, such as to a wall bracket or an articulated swing arm, make sure the maximum length of the screws inserted into the display mounts is 9 millimeters. Forcing the screws deeper into the mounts and exceeding this maximum length may damage the display.

## Power Management System

The VitalScreen CSR and VitalScreen CR displays comply with the VESA Display Power Management Signaling (DPMS) standard. This standard provides four power-saving modes, based on the display detecting the horizontal or vertical sync signals. This table describes the four modes.

| Mode | AC Input Power[1] | LED Status |
|---|---|---|
| On | 60 watts maximum | Steady green |
| Standby | 5 watts maximum | Blinking green |
| Suspend | 5 watts maximum | Blinking green |
| Off | 5 watts maximum | Off |

[1] Including AC adapter

When the display is in power-saving mode or detects incorrect timing, the screen is blank and the power LED indicator blinks.

## Landscape-to-Portrait Mechanical Conversion

The 17.4" display (deskstand version) has a unique feature that allows a mechanical conversion of the display from the traditional landscape mode to a vertical portrait mode.

Use both hands whenever you are changing the orientation of the display.

1. Gently pull the lower half of the display toward you.

   You *must* tilt the display upward before rotating it.

2. Rotate the display 90 degrees to left (counterclockwise) until it stops in portrait mode.
3. Select, if necessary and/or available, the different option on the video card, or display settings on the control panel.
4. Refer to www.portrait.com for software that allows conversion from landscape to portrait mode.

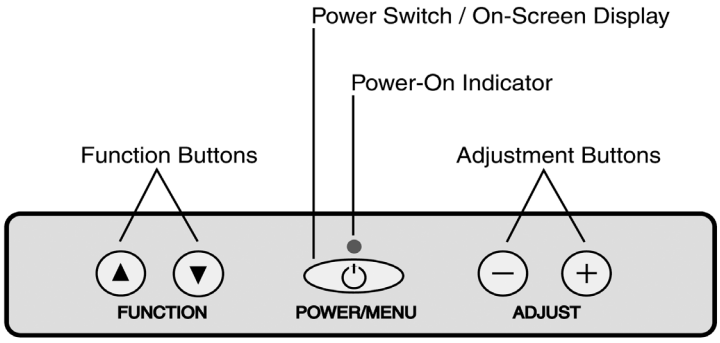
CHAPTER

# 3 The Display Controls

Read this chapter carefully to use your VitalScreen CSR or VitalScreen CR display efficiently and effectively.

## Using the Onscreen Display

The onscreen display (OSD) makes adjusting the display settings quick and easy. Use the OSD to adjust the brightness, contrast, volume, position, and language for the options in the display. You can access the OSD whenever both the computer and display are on. If the computer is off or in power-saving mode, the OSD is inaccessible.




## Onscreen Display Main Menu

Call up the OSD Main Menu by momentarily pressing the Power/Menu button. Use the Function buttons (UP and DOWN arrows) to scroll through the menu items. When the desired submenu displays, use either Adjustment button (PLUS or MINUS control) to select the submenu. Then use the Function buttons to select the desired function and the Adjustment buttons to make the needed changes.

The available control functions are grouped into categories. The selected mode of operation (either analog or digital) determines the available categories.

### Main menu

The following table describes the main menus of the onscreen display.

| The Main Menus | |
|---|---|
| Basic setting | Change brightness, contrast |
| Position | Change the display attributes |
| Auto-adjust | Auto-adjust the display parameters to optimum values (not available for digital mode) |
| Color temperature | Adjust the color settings |
| Miscellaneous | Audio volume, OSD H-position, OSD V-position, display mode, FW (firmware) version |
| Video | Switch to video input port. (Available with S-Video and Composite Video display) |
| Language | Support six different languages: English, Dutch, German, French, Spanish, Italian |
| Input port | Port 1 analog, Port 2 digital |
| Reset | Reset display |
| Exit | Close the onscreen display |

### Function menus

The following tables describe the function menus of the onscreen display.

| **Basic Setting (Available in analog and/or digital mode)** | | |
|---|---|---|
| Contrast | Adjust the contrast level of the display | Analog<br>Digital |
| Brightness | Adjust the brightness of the display's backlight | Analog<br>Digital |
| Video level | Auto adjusts video level when selected | Analog |
| Gamma | Gamma curve adjustment, ranging from 0.85 to 1.15 | Analog |
| Frame | Sets border color when native size is selected and selected resolution is less than default (1280 x 1024) | Analog |
| To main menu | Exit | |

| **Position Menu (Analog mode only)** | |
|---|---|
| Clock | Adjust the display pixel alignment |
| Phase | Adjust the screen display for focus and clarity |
| Default size | Appears at display resolution |
| Native size | Displays at computer resolution |
| H-position | Horizontal position adjustment (not available for digital mode) |
| V-position | Vertical position adjustment (not available for digital mode) |
| H-size | Horizontal size adjustment |
| V-size | Vertical size adjustment |
| Graphic/Text | Select either Graph or Text expansion method (Only available in 720 x 400 and 640 x 480 resolutions) |
| To main menu | |

| **Color Temperature (Analog mode only)[1]** | |
|---|---|
| Color 9300 | Set the color temperature of white to 9300 degrees Kelvin |
| Color 6500 | Set the color temperature of white to 6500 degrees Kelvin |
| Color user | Enable "User Color" selection, and adjust individual RGB levels |
| R | Adjust red contrast |
| G | Adjust green contrast |
| B | Adjust blue contrast |
| To main menu | |

[1] Three sets of color temperature settings are available: two for standard settings and one for user adjustment.

| **Miscellaneous Menu** | |
|---|---|
| Audio volume | Audio volume adjustment |
| OSD H-position | Adjust the OSD position horizontally |
| OSD V-position | Adjust the OSD position vertically |
| Display mode | Shows the display mode |
| F/W version | Shows the firmware version |
| To main menu | |
| Exit | |

### Quick adjustment functions: Analog and digital modes

| **For this function…** | **Push this key…** |
|---|---|
| Contrast | Function UP (⊙) |
| Brightness | Function DOWN (⊙) |
| Audio volume | Adjust PLUS (⊕) |
| Port selection | Adjust MINUS (⊖) |

## S-Video and Composite Video Settings

These functions are active on the VitalScreen onscreen display when the display is in S-Video or Composite Video mode.

This option is available only on the VitalScreen 17.4" CSR display.

### Settings

The settings are selected with the Function buttons. Select the UP (⊙) or DOWN (⊙) arrow.

Change the settings with the Adjustment buttons. Select the PLUS (⊕) or MINUS (⊖) control.

| | |
|---|---|
| Contrast | Adjust the contrast level of the display |
| Brightness | Adjust the brightness of the display's backlight |
| Volume | Adjust audio volume |
| Input | Switch between S-Video and Composite Video modes |
| Video → VGA | Switch between video and VGA/DVI inputs |
| Hue | Adjust the hue level of the display |
| Sampling | Change Sampling mode settings |
| Overscan | Turn Overscan ON or OFF |
| Reset | Reset display S-Video or Composite Video settings |

### Quick adjustment functions

| For this function… | Push this key… |
|---|---|
| Input | Adjust MINUS (⊖) twice |
| Audio volume | Adjust PLUS (⊕) |
| Video → VGA | Power/Menu key,[1] then push Adjust PLUS (⊕) or Adjust MINUS (⊖) |

[1] Pressing and holding the Power/Menu button for more than 2 seconds turns off the display.

## Onscreen Display Lockout

Both displays incorporate an OSD lockout function that you toggle active or inactive. Pressing three controls — Function DOWN (), Adjust PLUS (), and Adjust MINUS () — simultaneously locks out the OSD from being enabled by the power control. Attempts to enable the OSD result in an “OSD locked” message only. To unlock the OSD, press the same three controls in the same manner.

## Supported CVBS and S-Video Modes

Supported video formats on VitalScreen displays with S-Video and Composite Video functionality include the following:

PAL B, G, H, I, D
NTSC M, Japan

This option is available only on the VitalScreen 17.4" CSR display.

In the table on page 17, ‘A’ signifies analog mode and ‘D’ signifies digital mode. Also, if the input timing is close to one of the modes, generally it can be displayed by manually adjusting the clock and/or phase from within the OSD menu.

**Supported Video Modes**

| Item | Standard | Resolution | Dot Clock (MHz) | Vertical Scanning Frequency (Hz) | Horizontal Scanning Frequency (kHz) | Sync Polarity or Composite Sync (H/V) | Operating Mode |
|---|---|---|---|---|---|---|---|
| 1 | NEC PC98 | 640x400 | 25.20 | 70.15 | 31.50 | -/- | A/D |
| 2 | NEC PC98 | 640X400 | 21.05 | 56.42 | 24.83 | -/- | A |
| 3 | MAC 13" mode | 640x480 | 30.24 | 66.67 | 35.00 | -/- | A/D |
| 4 | MAC 16" mode | 832x624 | 57.28 | 74.55 | 49.73 | -/- | A/D |
| 5 | MAC 17" mode | 1024x768 | 80.00 | 75.02 | 60.24 | -/- | A/D |
| 6 | VGA | 640x350 | 25.18 | 70.09 | 31.47 | +/- | A/D |
| 7 | VESA | 640x350 | 31.50 | 85.08 | 37.86 | +/- | A/D |
| 8 | VGA | 640x400 | 25.18 | 70.09 | 31.47 | -/+ | A/D |
| 9 | VESA | 640x400 | 31.50 | 85.08 | 37.86 | -/+ | A/D |
| 10 | VGA | 640x480 | 25.18 | 59.94 | 31.47 | -/- | A/D |
| 11 | VESA | 640x480 | 31.50 | 72.81 | 37.86 | -/- | A/D |
| 12 | VESA | 640x480 | 31.50 | 75.00 | 37.50 | -/- | A/D |
| 13 | VESA | 640x480 | 36.00 | 85.01 | 43.27 | -/- | A/D |
| 14 | VESA | 800x600 | 36.00 | 56.25 | 35.16 | +/+ | A/D |
| 15 | SVGA | 800x600 | 40.00 | 60.32 | 37.88 | +/+ | A/D |
| 16 | VESA | 800x600 | 50.00 | 72.19 | 48.08 | +/+ | A/D |
| 17 | VESA | 800x600 | 49.50 | 75.00 | 46.88 | +/+ | A/D |
| 18 | VESA | 800x600 | 56.25 | 85.06 | 53.67 | +/+ | A/D |
| 19 | VGA | 720x400 | 28.32 | 70.09 | 31.47 | -/+ | A/D |
| 20 | VESA | 720x400 | 35.50 | 85.04 | 37.93 | -/+ | A/D |
| 21 | MEDICAL | 1024x512 | 46.76 | 60.00 | 34.38 | -/- | A/D |
| 22 | XGA | 1024x768 | 65.00 | 60.00 | 48.36 | -/- | A/D |
| 23 | VESA | 1024x768 | 75.00 | 70.07 | 56.48 | -/- | A/D |
| 24 | VESA | 1024x768 | 78.75 | 75.03 | 60.02 | +/+ | A/D |
| 25 |  | 1024x768 | 71.64 | 66.13 | 53.96 | +/+ | A/D |
| 26 | VESA | 1024x768 | 94.50 | 85.00 | 68.68 | +/+ | A/D |
| 27 | VESA | 1152x864 | 108.00 | 75.00 | 67.50 | +/+ | A/D |
| 28 | VESA | 1152x864 | 121.50 | 85.00 | 77.09 | +/+ | A/D |
| 29 | VESA | 1280x960 | 108.00 | 60.00 | 60.00 | +/+ | A/D |
| 30 | VESA | 1280x1024 | 108.00 | 60.02 | 63.98 | +/+ | A/D |
| 31 | VESA | 1280x1024 | 127.00 | 69.85 | 74.88 | +/+ | A |
| 32 | VESA | 1280x1024 | 135.00 | 75.03 | 79.98 | +/+ | A |
| 33 | SUN | 1024x768 | 64.13 | 59.98 | 48.29 | H+V | A |
| 34 | SUN | 1024x768 | 74.25 | 70.04 | 56.59 | H+V | A |
| 35 | SUN | 1024x768 | 84.38 | 77.07 | 62.04 | H+V | A |
| 36 | SUN | 1024x800 | 81.00 | 72.87 | 60.99 | H+V | A |
| 37 | SUN | 1024x800 | 94.50 | 85.53 | 71.59 | H+V | A |
| 38 | SUN | 1152x900 | 94.50 | 66.00 | 61.84 | H+V | A |
| 39 | SUN | 1152x900 | 108.00 | 76.64 | 71.81 | H+V | A |
| 40 | SUN | 1280x1024 | 117.00 | 67.19 | 71.69 | H+V | A |
| 41 | SUN | 1280x1024 | 135.00 | 76.10 | 81.13 | H+V | A |

# APPENDIX A Technical Information

| VitalScreen 17.4" CSR/CR | | Specification |
|---|---|---|
| Display panel | | 17.4-inch (442-mm) SXGA active matrix LCD |
| Display colors | | Full color supporting 8-bits/color |
| Dimensions (W x H x D) | Landscape mode<br>Portrait mode | 18" x 18" x 8.5" (457 mm x 457 mm x 216 mm)<br>15" x 19.5" x 8.5" (381 mm x 495 mm x 216 mm) |
| Weight | | 20 lb (9 kg) |
| Display area (W x H) | | 13.6" x 10.9" (345.6 mm x 276.48 mm) |
| Response time | | 25 milliseconds Wht>Blk @ 25 milliseconds max. |
| Viewing angle | | 160 degrees (horizontal or vertical) |
| Contrast ratio | | 400:1 in dark room (0 lux) typical |
| Brightness | Non-touch<br>Resistive touch | 200 cd/$m^2$ typical<br>176 cd/$m^2$ typical |
| Pixel pitch (W x H) | | 0.297 mm x 0.297 mm |
| Reliability | Monitor<br>Backlight | 30,000 hours mean time between failure (MTBF)<br>50,000 hours to reach 50% of initial brightness |
| Scanning frequency | Analog<br><br>Digital | Horizontal 24 to 81 kHz<br>Vertical 56 to 85 Hz<br>Horizontal 38.6 to 60 kHz<br>Vertical 50 to 75 Hz |
| Power consumption | | 60 watts maximum<br><5 watts in standby or off mode |
| Power supply | | 12 volts / 5 amps, 60 watts |
| Audio | | Stereo speakers with integral amp.<br>(min. 1W/channel, <1% distortion) |
| Temperature | Operating<br>Nonoperating | 0 to 40 degrees Celsius<br>-20 to 60 degrees Celsius |
| Humidity | Operating<br>Nonoperating | 10 to 90 percent relative humidity (noncondensing)<br>10 to 90 percent relative humidity (noncondensing) |
| Altitude | Operating<br>Nonoperating | 0 to 8000 ft (2400 m)<br>0 to 40,000 ft (12,200 m) |

# APPENDIX B Troubleshooting

### PROBLEM: Display is unclear and unstable

This procedure is for users of analog VGA.

This LCD device comes pre-adjusted with standard VGA timing. Due to output differences among various VGA cards, you may initially experience an unclear and unstable display when a new display mode or new VGA card is detected. To correct the problem, follow these steps:

1. Apply the Auto-Adjust option in the OSD menu for the display to adjust automatically to the video signal.
2. If the picture remains unstable, consider manual adjustment of the clock and phase (in the OSD menu of the display). These adjustments are not recommended for nontechnical users.
3. If the system still does not function properly, get help from technical support at your system provider.

### PROBLEM: No image appears on LCD screen

If no image appears on the LCD screen, follow these steps:

1. Make sure the power indicator on the display is illuminated, all connections are secure, and the system is running on a supported video timing mode.
2. If the power LED is not illuminated, make sure the AC power connector is securely connected. If the AC adapter has an LED, verify that the LED is illuminated. If it is not, contact your dealer for assistance.
3. Turn the display off and then turn it back on.
4. Connect your system to another Planar 17.4 display, if one is available. If the system functions properly with the alternate display but not with the original display, and the original display's power LED is blinking, the output timing of the computer's video board may be out of the display's synchronous range. Change to an alternate mode (1280 x 1024, or less), or connect to an alternate video source and repeat steps 1 and 2.
5. Ensure that the computer's video port is enabled (DVI or VGA). This is a function of the video board in the user computer system. See your system's video board documentation for instructions on how to enable the video port.
6. If the system does not function with either display, get help from technical support at your system provider.

# Index

# Description of Warranty

Planar Systems, Inc. (Planar) warrants that the goods sold hereunder will be free of defects in materials and workmanship, and such goods will substantially conform to the specifications furnished by Planar, and to any drawings or specifications furnished to Planar by the Buyer if approved by Planar. This warranty shall be effective only if Planar receives notice of such defect or nonconformance during the period of the warranty. Planar's sole and exclusive liability for breach of warranty shall be, at the company's option, to repair or replace the Planar product(s) with refurbished units or provide a credit to Buyer in the amount of the purchase price.

### Commencement and duration of warranty

The warranty period begins on the date of shipment from Planar. The goods sold hereunder are warranted for a period of 36 months from date of shipment unless otherwise agreed to by Buyer and Planar. No extension of the warranty will be given during the time the goods are in the possession of Planar.

### Place of repair or replacement

To obtain service under this warranty, Buyer must notify Planar of the defect before expiration of the warranty period and request a "Return Material Authorization Number (RMA)." If the configuration has been modified in any manner, the product must be returned to its original configuration before any warranty service will be performed by Planar. No goods are to be returned to Planar without prior authorization. Buyer will be responsible for packaging and shipping the defective goods to the appropriate Planar service facility. For North America, the service facility is located in Beaverton, Oregon; for Europe, the service facility is located in Espoo, Finland.

### Limitation of warranty

The foregoing warranty shall not apply to defects resulting from (a) improper or inadequate maintenance by Buyer; (b) unauthorized modification of the goods; (c) operations of the goods outside the environmental specifications of the goods; (d) neglect, misuse, or abuse of the goods; or (e) modification or integration with other goods not covered by the Planar warranty when such modification or integration increases the likelihood of damage to the goods.

THE WARRANTY IS GIVEN BY Planar IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED. Planar DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Planar's RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE BUYER FOR BREACH OF THIS WARRANTY. Planar WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER Planar HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

The warranty set forth above shall not be enlarged, diminished, or affected by, and no obligation or liability shall arise from, Planar, any authorized dealer, or any other person's rendering of technical advice, assistance, or services in connection with the Buyer's order of the goods furnished hereunder. The Buyer is not relying on skill or judgment of Planar to select or furnish suitable goods.

### Installation

Planar makes no warranty with respect to any installation of Planar product(s) by Planar, any authorized dealer, or any other person.

### Technical assistance

In North America, call (503) 748-1100 between 8 A.M. and 5 P.M. Pacific time, Monday through Friday, or send a description of your technical issues and e-mail address to tech_support@planar.com.

In Europe, call +358 9 420 01 between 8 A.M. and 4 P.M. Finnish time (Eastern European time), Monday through Friday, or send a description of your technical issues and e-mail address to intltech_support@planar.com.

### Repair service

In North America, call Planar at (503) 748-1100 between 8 A.M. and 4 P.M. Pacific time, Monday through Friday, or fax your request to (503) 748-1493. You will need the unit's serial number and a brief description of the problem to receive an RMA number.

In Europe, call Planar Customer Service at +358 9 420 01 between 8 A.M. and 4 P.M. Eastern European time, Monday through Friday, or fax your request to +358 9 420 0200. You will need the unit's serial number and a brief description of the problem to receive an RMA number.

To protect Planar employees from potential health hazards, Planar requires that the RMA product be disinfected before returning to Planar for service. Any product not cleaned prior to shipment will be returned to the customer.

Returns are not accepted without an assigned RMA number.

In-transit damage is not covered by the warranty. Insure your shipment. Planar will only pay for the return shipment by surface transportation. It is the responsibility of the sender to prepay transportation charges.

# Ordering Information

| VitalScreen CSR | Part Number |
|---|---|
| VS17.4SXAD 17.4-inch SXGA VitalScreen Medically Certified Display (non-touch) with desk stand and U.S. power cord | 996-0497-00 |
| VS17.4SXAD 17.4-inch SXGA VitalScreen Medically Certified Display (non-touch) with desk stand and European power cord | 996-0497-01 |
| VS17.4SXAD 17.4-inch SXGA VitalScreen Medically Certified Display (non-touch) with standard mounting (VESA compatible, 75 mm) and U.S. power cord | 996-0497-02 |
| VS17.4SXAD 17.4-inch SXGA VitalScreen Medically Certified Display (non-touch) with standard mounting (VESA compatible, 75 mm) and European power cord | 996-0497-03 |
| VS17.4SXAD-TR 17.4-inch SXGA VitalScreen Medically Certified Display (resistive touch) with desk stand and U.S. power cord | 996-0498-00 |
| VS17.4SXAD-TR 17.4-inch SXGA VitalScreen Medically Certified Display (resistive touch) with desk stand and European power cord | 996-0498-01 |
| VS17.4SXAD-TR 17.4-inch SXGA VitalScreen Medically Certified Display (resistive touch) with standard mounting (VESA compatible, 75 mm) and U.S. power cord | 996-0498-02 |
| VS17.4SXAD-TR 17.4-inch SXGA VitalScreen Medically Certified Display (resistive touch) with standard mounting (VESA compatible, 75 mm) and European power cord | 996-0498-03 |
| VS17.4SXADV SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with desk stand and U.S. power cord (non-touch) | 996-0533-00 |
| VS17.4SXADV SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with desk stand and European power cord (non-touch) | 996-0533-01 |
| VS17.4SXADV SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with universal VESA mounting solution and U.S. power cord (non-touch) | 996-0533-02 |
| VS17.4SXADV SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with universal VESA mounting solution and European power cord (non-touch) | 996-0533-03 |
| VS17.4SXADVTR SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with desk stand and U.S. power cord (resistive touch) | 996-0534-00 |
| VS17.4SXADVTR SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with desk stand and European power cord (resistive touch) | 996-0534-01 |
| VS17.4SXADVTR SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with universal VESA mounting solution and U.S. power cord (resistive touch) | 996-0534-02 |
| VS17.4SXADVTR SXGA 17.4-inch video-equipped VitalScreen Medically Certified Display with universal VESA mounting solution and European power cord (resistive touch) | 996-0534-03 |

| VitalScreen CR | Part Number |
|---|---|
| CM17.4SXAD 17.4 SXGA VitalScreen CR (non-touch) with desk stand and U.S. power cord | 996-0514-00 |
| CM17.4SXAD 17.4 SXGA VitalScreen CR (non-touch) with desk stand and European power cord | 996-0514-01 |
| CM17.4SXAD-TR 17.4 SXGA VitalScreen CR (non-touch) with standard mounting (VESA compatible, 75 mm) and U.S. power cord | 996-0514-02 |
| CM17.4SXAD-TR 17.4 SXGA VitalScreen CR (non-touch) with standard mounting (VESA compatible, 75 mm) and European power cord | 996-0514-03 |
| CM17.4SXAD-TR 17.4 SXGA VitalScreen CR (resistive touch) with desk stand and U.S. power cord | 996-0515-00 |
| CM17.4SXAD-TR 17.4 SXGA VitalScreen CR (resistive touch) with desk stand and European power cord | 996-0515-01 |
| CM17.4SXAD-TR 17.4 SXGA VitalScreen CR (resistive touch) with standard mounting (VESA compatible, 75 mm) and U.S. power cord | 996-0515-02 |
| CM17.4SXAD-TR 17.4 SXGA VitalScreen CR (resistive touch) with standard mounting (VESA compatible, 75 mm) and European power cord | 996-0515-03 |
| **Items Included with All Display Products** | **Part Number** |
| Cable, VGA-VGA, 2 m, white, smooth surface (analog) with audio | 903-0293-00 |
| Cable, DVI-DVI, 2 m, white, smooth surface with audio | 903-0292-00 |
| 17.4" VitalScreen CSR and VitalScreen CR operations manuals (English) | 020-0168-00 |
| 3 m S-Video/CVBS cable (VS17.4SXADV only) | 903-0308-00 |
| 3 m audio cable (VS17.4SXADV only) | 903-0310-00 |
| **Available Cables and Accessories** | **Part Number** |
| 100-mm VESA mounting plate | 501-0415-00 |
| European medical grade power cord, 1.5 m | 903-0251-00 |
| U.S. medical grade power cord, 3 m | 903-0169-00 |
| Touchscreen cable, 2 m, white, smooth surface | 903-0233-00 |
| 12 V medical grade power supply | 902-0238-00 |
| Planar desk stand for 17.4" display | 501-0380-00 |

| North and South America Sales | Europe and Asia-Pacific Sales |
| --- | --- |
| Planar Systems, Inc.<br>1195 NW Compton Drive<br>Beaverton, OR 97006-1992<br>+1 (503) 748-1100 phone<br>+1 (503) 748-1493 fax<br>sales@planar.com<br>tech_support@planar.com | Planar Systems, Inc.<br>Olarinluoma 9, P.O. Box 46<br>FIN-02201 Espoo, Finland<br>+358 9 420 01 phone<br>+358 9 420 0200 fax<br>intlsales@planar.com<br>intltech_support@planar.com |